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CLAIMS

1) **IMPROVEMENT TO METALLIC CROSS SECTION FOR THE MAKE UP OF STRUCTURES FOR THE ASSEMBLY OF ELECTRICAL PANELS**, this cross section was particularly developed for the assembly of indoor electrical cabinets or booths (100), defined by side enclosures (101), including one or more hinged doors (102), these and previous ones are made from substantially thin metallic sheets, which requires the use of a structure (103) of metallic cross section's (104), which constitutes the means for supporting the walls which make up the external walls out of folded sheet metal, as well as constituting the means for supporting the respective doors and hinges, as well as the other accessories, and still in this same structure, although on the inside also configures the necessary uprights for the distribution and assembly of the different electrical and electronic components and devices; **characterized** by the fact that the said cross section (104) presents a transversal cross section with a defined geometry in a triangular rectangular format, but its side compete to form an internal section or central core in a tubular form (105), where the upright (106) faces the inside of the cabinet (100), whilst the opposite upright (107) faces the outside of the said cabinet (100), whilst the other two adjacent uprights (108) present a peculiar configuration defined by the walls (109) which forma aright angle (106), no seen that for these walls to form each upright (108) are perpendicularly folded in the direction of the upright (107) and immediately thereafter again folded inwards forming an apex in a the shape of a "U" (110) and, at the same time the stretches of walls (111) receive a succession of folds at different angles and sufficiently so that these walls (111) may end one against the other superimposing on one another so as to form the upright (107), where the closing of the cross section takes place and at the same time this upright extends outwardly and configures an assembly wing (112), which is flanked by the two walls (111) which besides being completely blind, remain outside the cabinet (100), which does not occur with the walls (109) which remain

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inside the cabinet (100), as these distribute rows of openings and holes with variable shapes and sizes (113), these constitute the fastening points for the different components which are mounted in the interior of the cabinet, which also happens with the mounting wing (112), where it is itself punched by rows of variable openings and holes (114) for fastening the external components to the cabinet (100).

2) **IMPROVEMENT TO THE METALLIC CROSS SECTION FOR THE MAKING UP OF STRUCTURES FOR THE ASSEMBLY OF ELECTRICAL PANELS**, according to justification 1, characterized by the fact that the uprights (108) and the upright (107), are at an inclined alignment which corresponds to the diagonal as an opposing hypotenuse to the straight upright (106).

3) **IMPROVEMENT TO THE METALLIC CROSS SECTION FOR THE MAKING UP OF STRUCTURES FOR THE ASSEMBLY OF ELECTRICAL PANELS**, according to justification 1, characterized by the fact that the mounting wing (112) is positioned in a parallel manner in relation to one of the apexes (110), as well as this wing being preferably limited within the external limit of the cross section as defined by the uprights (108).

4) **IMPROVEMENT TO THE METALLIC CROSS SECTION FOR THE MAKING UP OF STRUCTURES FOR THE ASSEMBLY OF ELECTRICAL PANELS**, according to justification 1, characterized by the fact that, in another constructive variation the mounting wing (112a) extends itself in conjunction with a fold at right angles (129), nevertheless its positioning still continues parallel with one of the apexes (110) which in this version, besides being much shorter, but also wider, as in this case the wing itself (112a) the closing off of the cross section takes place, that is, there are three layers of superimposed sheet steel.

5) **IMPROVEMENT TO THE METALLIC CROSS SECTION FOR THE MAKING UP OF STRUCTURES FOR THE ASSEMBLY OF ELECTRICAL PANELS**, according to justification 1, characterized by the fact that, in

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another constructive variation the diagonal wall (130) which interlinks the two apexes (110) are practically straight and in its mid parts the two steel sheet are joined and face outwards, a double mounting wing is developed (112b), seeing that it is folded at right angles in the middle (131), forming two stretches with openings (114).

6) IMPROVEMENT TO THE METALLIC CROSS SECTION FOR THE MAKING UP OF STRUCTURES FOR THE ASSEMBLY OF ELECTRICAL PANELS, according to justification 1, characterized by the fact that, in another constructive variation the, two apexes (110) are interlinked by a "W" wall in a stepped manner, forming an outwardly facing median straight angle (132), being that the closing off of the cross section occurs on one of the apexes (110), where the superimposition of the extruded sheet takes place.

7) IMPROVEMENT TO THE METALLIC CROSS SECTION FOR THE MAKING UP OF STRUCTURES FOR THE ASSEMBLY OF ELECTRICAL PANELS, according to justification 1, characterized by the fact that, in another constructive variation, one of the apexes (110) is substituted by a wing (133), coplanar to the wall (109), as well as another mounting wing being provided for (112c) positioned in parallel in relation to the apex (110), being that even in this case the enclosing of the cross section is carried out on the wing (133).

8) IMPROVEMENT TO THE METALLIC CROSS SECTION FOR THE MAKING UP OF STRUCTURES FOR THE ASSEMBLY OF ELECTRICAL PANELS, according to justification 7, characterized by the fact that, in another constructive variation, the wing (133) is folded perpendicularly inwards and in a condition which is parallel to the other wing (112c).

9) IMPROVEMENT TO THE METALLIC CROSS SECTION FOR THE MAKING UP OF STRUCTURES FOR THE ASSEMBLY OF ELECTRICAL PANELS, according to justification 1, characterized by the fact that, in another constructive variation, the opposing upright does not include a mounting wing, as well as its wing (135) completes a square tubular section,

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where the other two uprights have extensions forming the wings (136) with openings (137), as well as these wings remaining apart from the walls in parallel (135), in such a manner that between this and the said wing (136) a space is formed (138) and also on one of the wings (136) the closing off of the cross section is carried out,

10 **10) IMPROVEMENT TO THE METALLIC CROSS SECTION FOR THE MAKING UP OF STRUCTURES FOR THE ASSEMBLY OF ELECTRICAL PANELS**, according to justification 9, characterized by the fact that the wings (136) preferably have its length smaller than or equal to in relation to the length of the corresponding wall (135).

11) IMPROVEMENT TO THE METALLIC CROSS SECTION FOR THE MAKING UP OF STRUCTURES FOR THE ASSEMBLY OF ELECTRICAL PANELS, according to justification 1, characterized by the fact that, in another constructive variation, presents two symmetrical uprights (106), which on the opposite side is equally formed by another upright (106) with openings (113) on two of its walls (109), being that between these two uprights (106) there exists a diagonal wall (139), having its one end forming an ordinarily triangular volute (140), which also happens on the opposite side, therefore in this case the said volute imprisons the extremity of the wall (139) which in its turn defines the impervious enclosure of the cross section or forms a sealed wall against the side of the cross section which remains in the internal part of the cabinet and the side of the cross section which remains on the outside of the cabinet.

25 **12) IMPROVEMENT TO THE METALLIC CROSS SECTION FOR THE MAKING UP OF STRUCTURES FOR THE ASSEMBLY OF ELECTRICAL PANELS**, according to justification 9, characterized by the fact that, in another constructive variation the upright (134) is substituted by a diagonal wall (141) whose ends form the wings (136).

30 **13) IMPROVEMENT TO THE METALLIC CROSS SECTION FOR THE MAKING UP OF STRUCTURES FOR THE ASSEMBLY OF ELECTRICAL**

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PANELS, according to justification 1, characterized by the fact that, in another constructive variation, its triangular geometry is defined by the upright (106) and a diagonal wall (142) medially fitted with a wing (112), where the cross section is closed, being that also these walls (109) with its openings (113) are interlinked to the wall (142) in such a way as to for extreme wings with a double wall (143).

14) IMPROVEMENT TO THE METALLIC CROSS SECTION FOR THE MAKING UP OF STRUCTURES FOR THE ASSEMBLY OF ELECTRICAL PANELS, according to justification 1, characterized by the fact that, in another constructive variation, it presents a quadrangular transversal section preserving the upright (106) and openings, where one of the walls (109) present an inwardly facing fold forming a double walled wing (144) and still the other wall (109) extends itself outwardly forming another wing (145), where the closing off of the cross section occurs.

15 15) IMPROVEMENT TO THE METALLIC CROSS SECTION FOR THE MAKING UP OF STRUCTURES FOR THE ASSEMBLY OF ELECTRICAL PANELS, according to justification 1, where the transversal geometry of the cross section is defined by two or more independently folded cross section's from welded sheet steel one to the other, characterized by the fact that in another constructive variation its diagonal wall (141a) is an independent piece of sheet steel, whose ends are welded against the walls (109) which, in its turn, present the wings (136a) with single walls.

16) IMPROVEMENT TO THE METALLIC CROSS SECTION FOR THE MAKING UP OF STRUCTURES FOR THE ASSEMBLY OF ELECTRICAL PANELS, according to justification 1, characterized by the fact that, in another constructive variation, the internal part of the upright (134a) is an independent part and the wings (136a) are single walled, maintaining the spacing (138a) and, in this stretch, the welded internal part presents its ends folded in a "U" (146).

30 17) IMPROVEMENT TO THE METALLIC CROSS SECTION FOR THE

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MAKING UP OF STRUCTURES FOR THE ASSEMBLY OF ELECTRICAL PANELS, according to justification 1, characterized by the fact that, in another constructive variation, is obtained with three independent parts, individually folded and assembled with welds at strategic points, being that
5 one part forms a diagonal wall (139a), whilst the other two parts form the opposing uprights (106a), both of them with its wall (109a) punched with variable openings (113a), being that in of the two uprights all the ends of the three parts present superimposed stretches, closing the cross section and still with these uprights with the superimposed layers, one of the parts has one of
10 its ends folded forming an L shaped wing (140a).

18) IMPROVEMENT TO THE METALLIC CROSS SECTION FOR THE MAKING UP OF STRUCTURES FOR THE ASSEMBLY OF ELECTRICAL PANELS, according to justification 1, characterized by the fact that, in another constructive variation, two of the opposing uprights are formed by
15 their apexes folded in a "U" (147), to which the ends of the parts are fastened forming a diagonal wall (139a) in one of the uprights (106a).

19) IMPROVEMENT TO THE METALLIC CROSS SECTION FOR THE MAKING UP OF STRUCTURES FOR THE ASSEMBLY OF ELECTRICAL PANELS, according to justification 1, characterized by the fact that, in
20 another constructive variation, besides being constructed from two welded, the diagonal wall (141b) includes a mounting wing (112b).